

# PUBLIC WORKS DEPARTMENT

PUBLIC WORKS FACILITY AND EQUIPMENT  
FISCAL YEAR 2018 BUDGET PRESENTATION

# POST FIRE UPDATE— FULLY OPERATIONAL AT 700 WEST



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# OUR STRENGTH – OUR EMPLOYEES



# FIRE INSURANCE COVERAGE/CLAIMS STATUS

## SNOWPLOWS

### Great American Insurance Group (GAIG)

- Coverage:
  - No deductible
  - Actual cash value of snowplows
- Claims Status:
  - 11 new snowplows purchased \$2,255,000
  - Fleet and Risk Management Reserve Funds
  - \$1,270,000 GAIG Settlement offer based upon comps
  - Evaluating methodology and completeness of settlement offer

# FIRE INSURANCE COVERAGE/CLAIMS STATUS

## FACILITY

### Affiliated FM Insurance (AFM)

- Coverage:
  - \$25,000 deductible
  - Restoration/replacement cost of building with required code upgrades
  - Replacement cost for heavy equipment
  - Replacement cost for contents
  - Temporary office space for duration to rebuild/restoration
  - Claims assistance for architectural fees
- Claims Status:
  - JRCA Architects Fire Loss Damage Valuation Report - \$2,875,000 (AFM evaluating)
  - Replacement equipment ordered
  - Contents damage value being calculated
  - Claims Assistance: JRCA retained and AFM provided list of damaged/destroyed contents (no replacement costs)
  - AFM forwarded \$1M settlement advance

# PUBLIC WORKS FACILITY MASTERPLAN

- Facilities Planning Committee reviewing plans for all Sandy City buildings
- Public Works Department completing a long term needs assessment
- Facilities tour with City Council scheduled for May 30
  - Costs/phasing to be presented in June
- Transfer Station
  - South property planned for future development (5+ years)
  - Partnership opportunities



# 2018 BUDGET OVERVIEW

# PUBLIC WORKS VALUE STATEMENT

- Doing the job right the first time.
- Treating people with dignity and respect

# SIGNIFICANT BUDGET ISSUES

- Public Works Administration – Page 132: No changes
- Public Works Support – Page 133: No changes
- Streets – Page 134: Fleet Purchases
  - Replacements: Ford F-150 and Crack Sealer
  - Addition: Salt Building Conveyor System
- Engineering – Page 136: Staffing
  - Senior Engineer position converted into Chief Engineer position
  - Engineering Technician I/II was separated into an Engineering Technician I and Engineering Technician II



# SIGNIFICANT BUDGET ISSUES

- Transportation – Page 141:
  - Road Striping: Increased \$5,000 to \$75,000 (Paint arterials twice per year)
  - Fleet Purchases: Replace Ford F-150
  - Street Sign Fees: Increase \$5 to \$190 (Increased material costs)
- Waste Collection Fund – Page 142: Contracted Services (Increased per contract)
- City Cleanup Fund – Page 143: Fleet Purchases - 10-Wheel Dump Truck w/Plow Replacement

# CAPITAL PROJECTS

- Project 13194 – 9400 South Safe Sidewalk \$91,000 (\$23,000 Sandy City match)
- Project 13201 – Electronic Traffic Control Devices \$100,000
- Project 13206 – State Street Improvements \$500,000 (Streetlights and Trail ROW)
- Project 13821 – Street Reconstruction \$2,375,000
- Project 13822 – Hazardous Concrete \$375,051
- Project 13841 – 8680 South from State to 650 E \$405,000 (Phase III from 450 E to 650 E)
- Project 12852 – Historic Sandy Improvements \$595,000

# SIGNIFICANT BUDGET ISSUES

## Fleet Operations – Page 145:

- Misc Services – GPS Tracking: \$55,000 (Includes Vehicle Performance Telematics)
- Capital Equipment – Oil Analysis Equipment: \$94,000
- Fleet Apprentice Mechanic – new full-time position

## Fleet Purchases – Page 146:

- Police Department SUV Upgrade (Ford Explorers)



# PROPOSED OIL ANALYSIS PROGRAM

FLEET MANAGER NATHAN SCHAFER

# WHAT IS OIL ANALYSIS?

- Laboratory analysis of a lubricant's properties, suspended contaminants, and wear debris.
- Performed during routine predictive maintenance to provide meaningful and accurate information on lubricant and machine condition.
- Saves time and money by extending oil drain intervals, and assists with predicting major component failures before they happen.

# CURRENT SERVICE INTERVALS

- Sandy City currently changes engine oil every 3000 miles or 125 hours in every piece of rolling equipment.
- Most heavy equipment manufacturers suggests oil change intervals of 250 hours.
- Chevrolet recommends to change your engine oil and filter if needed every 7,500 miles.
- Ford suggests for 2008 and newer vehicles you should change oil every 7,500 miles.
- Mack trucks severe duty recommendation is 25,000 miles. (New diesel emission regulations have created cleaner running engines.)

# CURRENT COST: LABOR HOURS AND JIFFY LUBE CONTRACT

ASSET TYPE	# OF ASSET	LABOR HOURS PER SERVICE	AVERAGE SERVICES PER YEAR	LABOR HOURS PER YEAR PER VEHICLE	TOTAL LABOR HOURS PER YEAR	LABOR RATE COST TOTALS	JIFFY LUBE COSTS PER VEHICLE	JIFFLY LUBE TOTAL PER YEAR
Pickup & Car	255	1	4	4	***	\$0.00	\$27.00	\$27,540.00
Sweeper	5	2.5	4	10	50	\$4,550.00	\$0.00	\$0.00
Dump Truck	47	2.5	4	10	470	\$42,770.00	\$0.00	\$0.00
Light Diesel	26	2	4	8	***	\$0.00	\$75.00	\$7,800.00
Yellow Iron	18	2.5	4	10	180	\$16,380.00	\$0.00	\$0.00
Cruiser	81	1	4	4	***	\$0.00	\$25.00	\$8,100.00
Ambulance	7	2	4	8	56	\$5,096.00	\$0.00	\$0.00
Fire Truck	11	2.5	4	10	110	\$10,010.00	\$0.00	\$0.00
Excavator	1	2.5	4	10	10	\$910.00	\$0.00	\$0.00
<b>TOTAL</b>					<b>876 HRS</b>	<b>\$79,716.00</b>		<b>\$43,440.00</b>
							<b>TOTAL COST</b>	<b>\$123,156.00</b>

# CURRENT OIL USAGE AND COST

ASSET TYPE	# OF ASSET	OIL CAPACITY PER VEHICLE	OIL COST PER QUART	TOTAL OIL COST PER VEHICLE	SERVICES PER YEAR	TOTAL OIL COST PER YEAR	TOTAL OIL GALLONS USED
Pickup & Car	255	5 QTS	***	***	4	***	1275
Sweeper	5	32 Qts	\$2.10	\$67.20	4	\$1,344.00	160
Dump Truck	47	44 QTS	\$2.10	\$92.40	4	\$17,371.20	2068
Light Diesel	26	16 QTS	***	***	4	***	416
Yellow Iron	18	22 Qts	\$2.10	\$46.20	4	\$3,326.40	396
Cruiser	81	5 QTS	***	***	4	***	405
Ambulance	7	20 Qts	\$2.10	\$42.00	4	\$1,176.00	140
Fire Truck	11	44 QTS	\$2.10	\$92.40	4	\$4,065.60	484
Excavator	1	20 Qts	\$2.10	\$42.00	4	\$168.00	20
<b>TOTAL</b>							<b>5364</b>
						<b>TOTAL COST</b>	<b>\$27,451.20</b>
							<b>GRAND TOTAL</b>
							<b>\$150,607.20</b>

# OIL ANALYSIS PROGRAM LABOR HOURS AND COST

ASSET TYPE	# OF ASSET	LABOR HOURS PER PM	AVERAGE SERVICES PER YEAR WITH ANALYSIS	LABOR HOURS PER YEAR PER VEHICLE	TOTAL LABOR HOURS PER YEAR	LABOR RATE COST TOTALS	JIFFY LUBE COSTS PER VEHICLE	JIFFY LUBE TOTAL PER YEAR
Pickup & Car	255	1	2	2	510	\$46,410.00	\$0.00	\$0.00
Sweeper	5	2	1	2	10	\$910.00	\$0.00	\$0.00
Dump Truck	47	2	1	2	94	\$8,554.00	\$0.00	\$0.00
Light Diesel	26	1	1	1	26	\$2,366.00	\$0.00	\$0.00
Yellow Iron	18	2	2	4	72	\$6,552.00	\$0.00	\$0.00
Cruiser	81	1	2	2	162	\$14,742.00	\$0.00	\$0.00
Ambulance	7	1	1	1	7	\$637.00	\$0.00	\$0.00
Fire Truck	11	2	1	2	22	\$2,002.00	\$0.00	\$0.00
Excavator	1	2	2	4	4	\$364.00	\$0.00	\$0.00
<b>TOTAL</b>					<b>907 HRS</b>	<b>\$82,537.00</b>		<b>\$0.00</b>
<b>TOTAL LABOR COST</b>							<b>\$82,537.00</b>	

# OIL ANALYSIS PROGRAM OIL USAGE AND COST

ASSET TYPE	# OF ASSET	OIL CAPACITY PER VEHICLE	OIL COST PER QUART	TOTAL OIL COST PER VEHICLE	SERVICES PER YEAR	TOTAL OIL COST PER YEAR	TOTAL OIL GALLONS USED	
Pickup & Car	255	5 QTS	\$3.25	\$16.25	2	\$8,287.50	637.5	
Sweeper	5	32 Qts	\$2.35	\$75.20	1	\$376.00	40	
Dump Truck	47	44 QTS	\$2.35	\$103.40	1	\$4,859.80	517	
Light Diesel	26	16 QTS	\$2.35	\$37.60	1	\$977.60	104	
Yellow Iron	18	22 Qts	\$2.35	\$51.70	2	\$1,861.20	198	<b>GRAND TOTAL</b>
Cruiser	81	5 QTS	\$3.25	\$16.25	2	\$2,632.50	202.5	<b>\$103,092.00</b>
Ambulance	7	20 Qts	\$2.35	\$47.00	1	\$329.00	35	
Fire Truck	11	44 QTS	\$2.35	\$103.40	1	\$1,137.40	121	
Excavator	1	20 Qts	\$2.35	\$47.00	2	\$94.00	10	
<b>TOTAL</b>							<b>1865</b>	<b>SAVINGS PER YEAR</b>
						<b>TOTAL COST</b>		<b>\$47,151.20</b>
						<b>\$20,555.00</b>		

# COST COMPARISON



# Wheeler



WHEELER MACHINERY CO. - 4901 W. 2100 S, Salt Lake City, UT, 84120, USA

PHONE: 801-974-0511

Email: oillab@wheelercat.com Web: www.wheelercat.com

**CONTACT INFORMATION**

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 SANDY CITY CORPORATION  
 8775 SOUTH 700 WEST  
 SANDY, UTAH  
 NULL 84070  
 PHONE: 568-2988  
 FAX:

Interp By: Dan Pulsford

**EQUIPMENT**

CUSTOMER EQUIP NUM : 2203  
 SERIAL NUMBER : 1DW644KZKCE646621  
 MODEL : 644K  
 MANUFACTURER : DEERE  
 COMPANY NAME : SANDY CITY CORPORATION  
 JOB SITE :  
 AREA:  
 REGION:

**SAMPLE INFORMATION**

COMPARTMENT NAME : ENGINE  
 COMP SERIAL NUM :  
 COMPARTMENT MODEL :  
 LABEL#:  
 SHOP JOB NUM : 2212  
 SAMPLE TYPE: OIL  
 SAMPLE SHIP TIME (days) : 4  
 SAMPLE LOCATION :

**No Action  
 Required**

Condition satisfactory; continue to sample at recommended interval.

LAB #

E480-46299-1040

**WEAR/CONTAMINATION - ADDITIVE/FORMULATION**

SAMPLE DATE	SAMPLE ID	METER	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	Mo	Ni	Ag	Ti	V	Mn	Cd	Ca	P	Zn	Mg	Ba	B
21-Oct-16	E480-46299-1040	0	0	U	U	NAR	0	24	1	1	1	0	4	30	0	43	0	0	0	0	0	0	1194	937	1042	641	0	60
16-Sep-16	E480-46271-3004	1845	1845	N	N	NAR	1	5	0	1	1	0	3	25	0	41	0	0	0	0	0	0	1241	1018	1128	749	0	21

**OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION**

SAMPLE DATE	SAMPLE ID	METER	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	V100	ST	OXI	SUL	NIT	W	A	F
21-Oct-16	E480-46299-1040	0	0			15W-40	U	U	NAR	13.3	67	11	18	6	N	N	N
16-Sep-16	E480-46271-3004	1845	1845			15W-40	N	N	NAR	15.8	15	12	17	6	N	N	N

# Wheeler



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PHONE: 801-974-0511

Email: oilab@wheelercat.com Web: www.wheelercat.com

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NULL 84070  
PHONE: 568-2988  
FAX:

Interp By: Dylan L. Hall

**EQUIPMENT**

CUSTOMER EQUIP NUM : 0024  
SERIAL NUMBER : 4EN38CA141007987  
MODEL : ISM\_CUMMINS  
MANUFACTURER : CUMMINS  
COMPANY NAME : SANDY CITY CORPORATION  
JOB SITE :  
AREA:  
REGION:

**SAMPLE INFORMATION**

COMPARTMENT NAME : ENGINE  
COMP SERIAL NUM :  
COMPARTMENT MODEL :  
LABEL#:  
SHOP JOB NUM : 73299  
SAMPLE TYPE: OIL  
SAMPLE SHIP TIME (days) : 6  
SAMPLE LOCATION :

**Monitor  
Compartment**

Soot (ST) level is MODERATELY high. Check for plugged air filters; faulty injectors or turbo; and avoid excessive idling or lugging. Sodium (Na) is above normal. No glycol entry was detected in oil. Oil and filter changes were noted. Other readings are acceptable. Resample at a shorter interval to monitor levels.

LAB #

E480-46305-2009

**WEAR/CONTAMINATION - ADDITIVES/FORMULATION**

SAMPLE DATE	SAMPLE ID	METER	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	Mo	Ni	Ag	Ti	V	Mn	Cd	Ca	P	Zn	Mg	Ba	B
26-Oct-16	E480-46305-2009	115540	115540	Y	Y	MC	7	31	1	2	3	0	4	34	1	45	0	0	1	0	0	0	1319	1023	1158	779	0	25

**OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION**

SAMPLE DATE	SAMPLE ID	METER	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	V100	ST	OXI	SUL	NIT	W	A	PGC	F
26-Oct-16	E480-46305-2009	115540	115540			15W-40	Y	Y	MC	13.7	214	12	24	9	N	N	0	N

# Wheeler



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 NULL 84070  
 PHONE: 568-2988  
 FAX:

Interp By: Dylan L. Hall

### EQUIPMENT

CUSTOMER EQUIP NUM : 3204  
 SERIAL NUMBER : DW544J2693269  
 MODEL : 544J  
 MANUFACTURER : DEERE  
 COMPANY NAME : SANDY CITY CORPORATION  
 JOB SITE :  
 AREA:  
 REGION:

### SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE  
 COMP SERIAL NUM :  
 COMPARTMENT MODEL :  
 LABEL#:  
 SHOP JOB NUM : 73806  
 SAMPLE TYPE: OIL  
 SAMPLE SHIP TIME (days) : 11  
 SAMPLE LOCATION :

### Action Required

Sodium (Na) is above normal, but could be due to additives in the oil. No glycol entry was detected in oil. Silicon (Si) and Aluminum (Al) indicate dirt entry. Check the intake for dirt entry. Check for dirty air filters. SEVERE water (W) entry indicated. Light loads; low hour accumulation; and excessive idling time can contribute to water in the crankcase oil. Check breathers and seals for water entry and oil leaks. Oil and filter changes were noted. Resample at a shorter interval to monitor levels.

LAB #

E480-47009-2014

Process date: 09-Jan-17

#### WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	Mo	Ni	Ag	Ti	V	Mn	Cd	Ca	P	Zn	Mg	Ba	B
29-Dec-16	E480-47009-2014	1282	100	Y	Y	AR	1	18	1	14	2	2	44	30	5	44	0	0	1	0	0	0	1297	1028	1120	664	1	39

#### OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	W	A	PGC	F	PFc
29-Dec-16	E480-47009-2014	1282	100	VALVOLINE		15W-40	Y	Y	AR	E	N	0	N	0

# OTHER CONSIDERATIONS



- Oil analysis machine cost \$94,000.
- Based on estimations machine will pay for itself in 2 years or less.
- Proactive vehicle maintenance.
  - Avoiding major component failures.
  - Reduce oil disposal quantities. (Good for the environment, and the City's liability)
  - Eliminate sample fees. (\$15.00 per sample)

# POLICE SUV UPGRADE (FORD EXPLORER)

- Cost

- SUV is approximately \$2500 more upfront.
- SUV brings \$14-15,000 on resale vs \$7-8,000 for a sedan.
- SUV is approximately \$0.3 cents per mile cheaper to own over it's lifecycle.



# POLICE SUV VS SEDAN LIFE CYCLE COST ANALYSIS

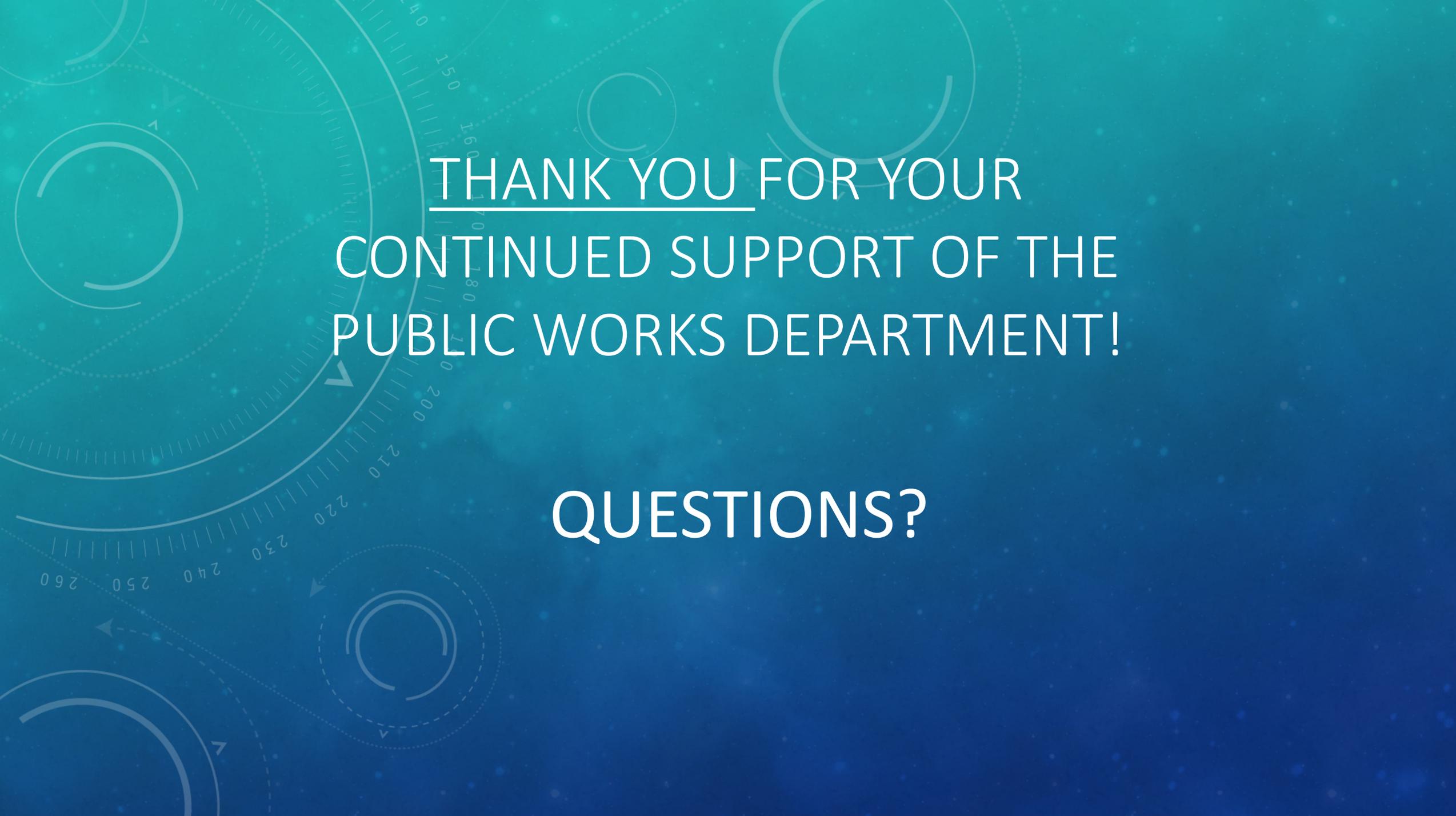
SUV PURCHASE \$	COST PER MILE O&M	5 YR-70,000 MILE LIFE	OWNERSHIP COST	RESALE VALUE	LIFE CYCLE COST
\$27,845.44	23.8 Cents per mile	\$16,660	\$44,505.44	\$14,407.00	\$30,098.44
<b>SEDAN PURCHASE \$</b>					<b>42.9 Cents per mile</b>
\$24,905.19	22.03 Cents per mile	\$15,421	\$40,326.19	\$8,229.00	\$32,097.19
					<b>45.8 Cents per mile</b>

# POLICE SUV UPGRADE – OTHER CONSIDERATIONS

- Safety

- Officer has a better view of surroundings.
- Easier for officer to enter and exit.
- Easier to assist uncooperative individuals into the cage area.





THANK YOU FOR YOUR  
CONTINUED SUPPORT OF THE  
PUBLIC WORKS DEPARTMENT!

QUESTIONS?